Keshav B. Patel

Salt Lake City, UT, 84101
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Education

University Utah — Expected May 2025

- Ph.D. in Mathematics
- Advisor: Aaron L. Fogelson
- Tentative Committee: James P. Keener, Wolfgang Bergmeier, Varun Shankar, Fred R. Adler

University of North Carolina at Chapel Hill — May 2019

- B.S. in Biomedical and Health Sciences Engineering
  - UNC/NC State University Joint Department
- B.S. with Highest Honors in Mathematics: Applied Option
- Minor in Chemistry
- Graduated with Highest Distinction

North Carolina School of Science and Mathematics — June 2015

Publications and Presentations

Publications

- **Patel, K. B.**, Mao, S., Forest, M. G., Lai, S. K., Newby, J. M. 2019. Limited Processivity of Single Motors Improves Motor Transport Through Enhanced Loading of Multi-Motor-Cargo Complexes on Microtubules. *Physical Review E.* 100 (2).

Publications (in progress)

- **Patel, K. B.**, Bergmeier, W., Fogelson, A. L. 2024. Role of RASA3 in Simulations of Platelet Integrin Activation

Undergraduate Honors Thesis

- **Patel, K. B.** 2019. Optimization of Crosslinker Efficiencies Through Asymptotic Approximation and Simulation of Fick's Law Systems. *University of North Carolina at Chapel Hill*

Upcoming Poster Presentations

- **Patel, K. B.** (July 2024). Towards a Mathematical Model of Aggregate Growth Mediated by Vwf. *Society for Mathematical Biology*, Seoul, Republic of Korea

Upcoming Oral Presentations

- **Patel, K. B.** (June 2024). Towards a Mathematical Model of Aggregate Growth Mediated by Vwf In **Patel, K. B.** and Ginsberg, A. (Chairs). *SIAM Life Sciences 2024.* Conducted from Portland, Oregon

Oral Presentations

- **Patel, K. B.** (January 2024). A Spatially Averaged Model for Platelet Cohesion by Von Willebrand Factor and Fibrinogen. *Joint Mathematics Meeting.* Conducted from San Francisco, California
- **Patel, K. B.** (August 2023). A Spatially Averaged Model for Platelet Cohesion by Von Willebrand Factor and Fibrinogen In **Patel, K. B.** and Nelson, A. C. (Chairs). *International Congress on Industrial and Applied Mathematics.* Conducted from Tokyo, Japan
- **Patel, K. B.** (July 2023). A Spatially Averaged Model for Platelet Cohesion by Von Willebrand Factor and Fibrinogen. *Society for Mathematical Biology.* Conducted from Columbus, Ohio
- **Patel, K. B.** (April 2023). A Spatially Averaged Model for Platelet Cohesion by Von Willebrand Factor and Fibrinogen In Zengyan Zhang (Chair). *SIAM Northern States Section Conference.* Conducted from Logan, Utah

Poster Presentations

- **Patel, K. B.** (July 2022). Modeling Platelet P2Y1/12 Pathway Within Near-membrane Nanodomains. *Gordon Research Conference – Hemostasis*, Waterville Valley, NH

Teaching Experience

- MATH 1050 — College Algebra — Spring 2023
- MATH 1310 — Engineering Calculus I — Fall 2022

Awards and Honors

- University of Utah Center for Quantitative Biology Fellowship Recipient — August 2019
- Honors Carolina Graduate — May 2019
- National Science Foundation Graduate Research Fellow Recipient — April 2019
- Univ. North Carolina Chancellor's Science Scholars Distinguished Scholar — August 2018

Service and Outreach

- Co-chair — Graduate Student Advisory Committee Colloquium — Aug 2023 - present
  - Organize and preside over weekly graduate student colloquium
- Chair — Association for Women in Mathematics Speaker Series — Aug 2021 - present
  - Invite and host mathematicians from underrepresented groups to department
- Co-organizer — High School Mathematical Modeling Workshop Series — Sept 2022 - Nov 2022
- Co-chair — Graduate Student Advisory Committee — Aug 2021 - Aug 2022
  - Liason between graduate students and department
- Chair — Graduate Student Recruitment Weekend Committee — Mar 2022
  - Organized and ran virtual and in-person visits for prospective graduate students
- Co-organizer — Essentials of Math Modeling Workshop Series — Jan 2022 - Feb 2022
  - In partnership with SIAM and Mathworks
- Co-organizer — High School Mathematical Modeling Workshop Series — Sept 2021 - Nov 2021
- Co-chair — Graduate Student Recruitment Weekend Committee — Mar 2021

Mentorship

- Directed Reading Program — Aug 2021 - May 2022
  - Finite Difference Methods for Ordinary and Partial Differential Equations (LeVeque 2007)

Programming Skills

- Programming/Markup: C, Python, Java, Matlab, R, LaTeX (IDE and UNIX environment experience)
- Manufacturing and Electronics: Solidworks, Labview, Multisim